UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/662,392	09/14/2000	Raymond P. Mariella JR.	IL-10560	1299

7590 12/17/2003

Eddie E Scott
Patent Attorney
Lawrence Livermore National Laboratory
PO Box 808 L 703
Livermore, CA 94551

EXAMINER	
CONLEY, SEAN E	

ART UNIT	PAPER NUMBER
1744	

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/662,392	MARIELLA, RAYMOND P.	
	Examiner	Art Unit	
	Sean E Conley	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *May 21, 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 September 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. The amendment filed May 21, 2003 has been received and considered for examination. Claims 1-18 remain pending in the application.

Allowable Subject Matter

2. The indicated allowability of claims 7-18 is withdrawn in view of the newly discovered reference(s) to Davies (U.S. Pat. 6,375,697 B2). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1, 7, 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Davies (U.S. Pat. 6,375,697 B2).

Davies discloses an apparatus and method for screening people and articles in order to detect exposure to chemical and biological weapons and further decontaminate the people and articles when a chemical or biological weapon is detected. The apparatus comprises a walk-in or walk-through portal (2) where a person is screened for

contamination by biological or chemical weapons. The person walks into the portal and air jets blow over the front and back areas of the person's body and sweeps the air into a collecting plenum. The air collecting plenum will exhaust the air through a high volume filtering system. The exhaust filter abstracts any desorbed chemicals from the air flow before it is exhausted to the open atmosphere. An analytical instrument can be used to make chemical measurements on the air flow exhausted through the plenum prior to filtering. One such instrumental method is Ion Mobility Spectroscopy (IMS); a successful means for detecting and identifying chemical weapons agents. However, many other techniques exist. Other instruments such as fast gas chromagraphs, IR analyzers and electrochemical cells can be used to detect biological and chemical weapons (see column 2, lines 4-45 and column 7, lines 24-51).

Preferably, the walk-through portal includes an analyzer, connected to the outlet for taking a sample of gas flowing through the outlet, whereby the analyzer determines the presence of a contaminating substance in the gas flowing through the outlet and/or a detection instrument connected to the inlet for monitoring gas flowing into the examination zone for presence of decontamination. The portal can further include a supply of a decontamination agent, connected to the recirculation duct, downstream of the filter, for supply of a decontamination agent for one of neutralization, destabilizing and breaking down the contaminating substance (see column 3, lines 25-51; column 5, lines 28-36; and column 6, line 57-column 7, line 9).

In conclusion, Davies discloses a detection means for detecting biological or chemical weapons in an air stream and the detection means is connected to the air

inside an enclosed air space. The device further includes an automatic treatment means for receiving and treating the contaminated air stream with a decontaminating agent in response to the detection of the biological and chemical weapons. Additionally, disclosed is an autonomous method of detection, identification and decontamination of a chemical weapons present in an air stream.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 2, 3, 5, 6, 8, 12, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davies as applied to claims 1, 7 and 11 above, and further in view of Groger et al. (U.S. Pat. 5,766,956).

Davies discloses an apparatus and method for screening people and articles in order to detect exposure to chemical and biological weapons and further decontaminate

the people and articles when a chemical or biological weapon is detected. The apparatus comprises a walk-in or walk-through portal (2) where a person is screened for contamination by biological or chemical weapons. The person walks into the portal and air jets blow over the front and back areas of the person's body and sweeps the air into a collecting plenum. The air collecting plenum will exhaust the air through a high volume filtering system. The exhaust filter abstracts any desorbed chemicals from the air flow before it is exhausted to the open atmosphere. An analytical instrument can be used to make chemical measurements on the air flow exhausted through the plenum prior to filtering. One such instrumental method is Ion Mobility Spectroscopy (IMS); a successful means for detecting and identifying chemical weapons agents. However, many other techniques exist. Other instruments such as fast gas chromagraphs, IR analyzers and electrochemical cells can be used to detect biological and chemical weapons (see column 2, lines 4-45 and column 7, lines 24-51).

Preferably, the walk-through portal includes an analyzer, connected to the outlet for taking a sample of gas flowing through the outlet, whereby the analyzer determines the presence of a contaminating substance in the gas flowing through the outlet and/or a detection instrument connected to the inlet for monitoring gas flowing into the examination zone for presence of decontamination. The portal can further include a supply of a decontamination agent, connected to the recirculation duct, downstream of the filter, for supply of a decontamination agent for one of neutralization, destabilizing and breaking down the contaminating substance (see column 3, lines 25-51; column 5, lines 28-36; and column 6, line 57-column 7, line 9). It would have been obvious to one

of ordinary skill in the art to include the step of stopping the circulation of the air if the treatment system shuts down because treated air would no loner be circulating throughout the system. The methods are also applicable to the decontamination of equipment, stores, military items and the like, which may be placed either within the portals or within fixed or portable chambers more suitably adapted for the specific purpose.

Davies does not teach specifically using antibody-based immunoassays or nucleic acid based assays for the detection of biological or chemical weapons.

Groger et al. discloses in column 1, lines 8-62, that existing biosensors are based on antibody-antigen and nucleic acid-analyte methods. These biosensors are used to detect micro-organisms and toxins considered for use in biological warfare by terrorists.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the detecting means of Davies with biosensors based on antibody-antigen and nucleic acid-analyte methods taught by Groger et al. for the purpose of detecting and treating biological or chemical toxins present inside an air stream.

8. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davies as applied to claims 1 and 11 above, and furthering view of Anbar (U.S. Pat. 4,022,876 A).

Davies does not teach specifically using mass spectrometric-based assays for the detection of pathogens.

Anbar discloses that a mass spectrometric-based assay is used when determining the amount of bound antigen-antibodies which can be used to identify and detect the type of chemical agent and amount present in the air being treated.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the detecting means of Davies with mass spectrometric-based assays as taught by Anbar for the purpose of detecting and treating biological or chemical toxins present inside an air stream.

9. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davies as applied to claim 11 above, and further in view of Condit et al. (U.S. Pat. 5,938,823).

The device of Davies does not teach using an electrostatic precipitator to treat the air.

Condit et al. discloses an air cleansing apparatus which includes an electrostatic precipitator for treating the air. The electrostatic precipitator traps contaminates as the air passes through the device (see columns 1 and 2). Condit et al. does not teach a means to detect and identify the contaminants in the air and is only focused on treating the air.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Davies and add an electrostatic precipitator in addition to the supply of decontaminating agent for the purpose of increasing the cleaning effect on the air by using an additional treatment means.

Arguments

10. The applicant argues that the Pearman reference does not show the structural elements of currently amended claim 1.

Response to Arguments

11. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection. The newly cited art to Davies (U.S. Pat. 6,375,697 B2) anticipates the apparatus and methods claimed by the applicant. See the above rejections.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Harris et al. (U.S. Pat. 5,074,137)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Conley, whose telephone number is (703) 305-2430. Beginning December 16, 2003, the examiners phone number will change to (571) 272-1273. The examiner can normally be reached on Monday-Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Robert Warden, can be reached at (703) 308-2920. The Unofficial fax phone number for this group is (703) 305-7719. The Official fax phone number for this

Group is (703) 872-9310. The direct fax number to the examiner is (703)-746-8859. Beginning December 16, 2003, the direct fax to the examiner will change to (571)273-1273.

When filing a FAX in Technology Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of the application. This will expedite the processing of your papers.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [robert.warden@uspto.gov]. All Internet e-mail communications will be made of record in the application file. PTO employees will not communicate with applicant via internet e-mail where sensitive data will be exchanged or where there exists a possibility that sensitive data could be identified unless there is of record express waiver of the confidentiality requirements under 35 U.S.C. 122 by the applicant. See the Interim Internet Usage Policy published by the Patent and Trademark Office Official Gazette on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist, whose telephone number is (703) 308-0661.

Sean E. Conley
Patent Examiner
AU 1744

December 8, 2003
SEC

Robert J. Warden

ROBERT J. WARDEN, SR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700